

ALCOHOL

- 1. Define a standard drink in terms of beer, wine, and spirits.**
- 2. Select from a list the physical effects of alcohol use.**



What is Alcohol?



A family of closely-related chemicals whose molecules are made up of Hydrogen, Carbon and Oxygen

- ▮ All “alcohols” are chemicals that impair driving ability.**
- ▮ Only one type of alcohol can be tolerated by the human body, Ethyl Alcohol (Ethanol). Other alcohols are highly toxic and will cause blindness or death in high quantities.**



What is Alcohol?



- ▮ **Alcohol is the MOST ABUSED drug by Soldiers.**
- ▮ **Alcohol is a colorless and pungent liquid that can be found in beverages such as wine, beer, and liquor.**
- ▮ **Alcohol is a Central Nervous System (CNS) depressant.**
- ▮ **Alcohol is considered to be a gateway drug to other drug use.**
- ▮ **People who drink alcohol are more prone to divorce and suicide than the rest of the population.**

What is Alcohol?

- ▮ A standard alcohol drink is considered to be:
 - ▮ One 12-ounce bottle of beer/wine cooler
 - ▮ One 5-ounce glass of wine
 - ▮ 1.5 ounces of 80-proof distilled spirits.
- ▮ Alcohol is also known as:
 - ▮ Sauce
 - ▮ Booze
 - ▮ Grog
 - ▮ Juice

Ingestion of Alcohol

- ▮ Alcohol can be inhaled, injected, absorbed through mucus membranes or drunk. By far drinking is the most common mode of ingestion.
- ▮ Although some (about 20%) of alcohol is absorbed in the stomach the majority is absorbed in the small intestine.
- ▮ Once absorbed into the blood stream, alcohol quickly travels to all cells of the body including the brain.

Elimination of Alcohol

- ▣ **As soon as the alcohol gets into the body, the body begins working to get rid of it.**
- ▣ **Only about 2-10% is expelled directly from the body through breath, urine, sweat, etc..**
- ▣ **The body eliminates most by chemically breaking it down.**
- ▣ **The liver is primarily responsible for chemically breaking down alcohol or metabolizing it.**
- ▣ **On average the liver can eliminate approximately .012% to .020% of your BAC per hour depending on your metabolism rate.**

Metabolism

- ▮ **How can we speed up the process? We can't speed it up.**
- ▮ **Drinking Coffee: Wide awake drunk**
- ▮ **Cold Shower: Wet, clean drunk**
- ▮ **Exercise: Tired, sweaty, smelly drunk**

Only Time Burns Alcohol !!!

What is Blood Alcohol Content (BAC)?

- ▢ Blood Alcohol Content or Concentration (BAC) - The amount of alcohol present in a 100 milliliter (mL) volume of blood.**
- ▢ The BAC is related to the users:**
 - ▢ Body Weight**
 - ▢ Metabolism**
 - ▢ Drinking Speed**

Effects of Alcohol and BAC



BAC

Effects

.02 - .03

- No loss of coordination, slight euphoria and loss of shyness. Depressant effects are not apparent.

.04 - .06

- Feeling of well-being, relaxation, euphoria, and lower inhibitions. Minor impairment of reasoning and memory. **.05 is the legal limit on duty in the U.S. Army.**

.07 - .09

- Slight impairment of balance, speech, vision, and reaction time. Judgment and self-control are reduced, caution and reason are impaired. **In most states the legal limit is .08.**

.1 - .125

- Significant impairment of motor coordination and loss of good judgment. Speech is slurred and balance, vision, reaction time, and hearing are impaired. **It is illegal in all states to operate a motor vehicle at this stage.**

Effects of Alcohol and BAC



BAC

Effects

.13 - .15

- Gross motor impairment and lack of physical control. Blurred vision and serious loss of balance. Euphoria is reduced and dysphoria (anxiety, restlessness) begins to appear.

.16 - .20

- Dysphoria predominates, nausea begins to appear. The drinker appears to be a *"sloppy drunk"*.

.25

- Needs assistance in walking; total mental confusion. Dysphoria with nausea and some vomiting.

.30

- Loss of consciousness.

.40 and above

- Coma, and possible death due to respiratory arrest.

Immediate Physical Effects

- Slurred Speech
- Slow Reactions
- Irregular Pulse
- Blurred Vision
- Loss of Inhibitions
- Dizziness



- Staggering
- Nausea/Vomiting
- Impaired Motor Skills
- Enlarged Heart
- High Blood Pressure
- Unconsciousness

Physical Signs of Use

- ▣ **Slow Reactions**
- ▣ **Alcohol Odor on Breath**
- ▣ **Nausea/Vomiting**
- ▣ **Irregular Pulse**
- ▣ **Dilated Pupils**
- **Dizziness**

- **Slurred Speech**
- **Blurred Vision**
- **Unconsciousness**
- **Overdose/Death**
- **Enlarged Heart**
- **High Blood Pressure**

Long Term Effects

- **Vitamin Deficiencies**
- **Skin Problems**
- **Loss of Muscle Tissue**
- **Sexual Impotence**
- **Stomach Damage**
- **Small Intestine Damage**
- **Loss of Feeling in Hands and/or Feet**

- **Pregnancy Complications**
- **Liver Cirrhosis/Cancer**
- **Heart Disorders**
- **Blood Disorders**
- **Lung Disease**
- **Brain Damage**
- **Death**

Alcohol Withdrawal

- ▮ When an alcohol dependent person stops consuming alcohol they may experience withdrawal symptoms:**
 - ▮ Auditory Hallucinations**
 - ▮ Paranoid Behavior**
 - ▮ Body trembles, “the shakes”, this can occur as early as 12 hours after the last drink.**
- ▮ The alcohol dependent person may also show minor signs of withdrawal:**
 - ▮ Agitation**
 - ▮ Profuse Sweating**
 - ▮ Nausea/Vomiting**
 - ▮ Incoherent Speech**

Alcohol Withdrawal

- ▮ **The addicted individual can also suffer extremely serious, and sometimes fatal, side effects of alcohol withdrawal:**
 - ▮ **Delirium Tremens (DTs) - A disorder involving sudden and severe mental changes (psychosis) or neurological changes (including seizures) caused by stopping the use of alcohol.**
 - ▮ **Alcoholic Psychoses - when the addicted person is scared of imaginary small animals and horrible sights and sounds.**

Additional Resources

- ▮ <http://www.erowid.org/chemicals/alcohol/alcohol.shtml>
- ▮ <http://www.niaaa.nih.gov/>
- ▮ <http://www.health.org>
- ▮ <http://www.sayno.com/alcohol.html>
- ▮ <http://www.alcoholics-anonymous.org/>
- ▮ <http://www.al-anon.alateen.org/>